TECHNICAL NOTE TN-1190-SR

**TM8200 Firmware v3.02
and PC App v3.00 Releases**

17 July 2006

Applicability

This Technical Note applies to the TM8200 mobile radios. This is the latest release of Firmware and PC Application for the TM8200 range.

1.   Firmware changes

Firmware Changes: Conventional

➢ When the TM8200 radio is scanning/voting groups the scan arrow icon (right) in the top left of the display now turns as an animated icon. During group-hold it stops turning and flashes.

➢ Resolved an issue with RSSI levels. Found when testing with high RF levels the RSSI output (AUX Pin 6) would disappear (go to zero volts) when the RF input surpassed -28dBm. Raised as TIMS 56043.

➢ There was a small change to the DCS decoder filter. This sped up the decode time a customer had found was up to 1 second, but ensured the performance didn't degrade. This is contained within the DSP file QMA2A. Raised as Focus 24907.

➢ Software control in the RF power control loop now uses five DAC settings rather than one for more consistent control across the band for the PA drive current. Raised as TIMS 42566.

Firmware Changes: MPT1327

➢ Resolved an issue for some MPT1327 users where a TM8200 would ignore the Call Cleardown messages from an active traffic channel call. The issue was the TM8200's FFSK decoder would stop running if there happened to be a drop of RF carrier *before* the Clear message was heard. This could also occur if the radio passed through a dropout in coverage during the call, even if the radio stayed on the traffic channel and reacquired the call. Raised as Focus calls 25138 and 25436.

➢ Audio Tap Out point R10 will now also allow MPT1327 Ringing and Call Setup tones to be output. Previously this tap point only output audio when the radio was in a receive active state. In Conventional this is obvious when valid, but in MPT1327 this didn't occur 'until the radio had switched to an active traffic channel'. Found in Global > Programmable IO > Audio and select Receive Tap Out Unmute as Speaker Unmuted. Raised as TIMS 55335.

➢ Resolved a TM8252 issue where the Internal Options RX_AUD output was non-existent if the TM8200 body was fitted with a Blank Head (TMAC30-0T). Raised as Focus 25151.

➢ Implemented TM8200 MPT1327 Callback enhancements. This now enables the radio to log Last Dialled and/or Last Incoming Calls. Found in MPT > MPT UI. Raised as Focus 22551.

➢ Corrected the External PTT call setup operation so that numbers dialed on the TM8200 display using the Keypad Mic can now also be actioned by the EPTT.
Previously, only the Mic PTT would action newly entered ID's. Raised as Focus 22619.

2.   PC App Changes

Conventional Pages

➢ <u>External Alert is Persistent</u> when ticked will ensure the external alert, once activated by the user, stays activated when restarting the radio. The default is unticked where it will reset to disabled when restarting the radio. When enabled the icon (right) is displayed on screen.

NOTE: This field is global across both Conventional and MPT1327 operation. It is set either in <u>Conventional > Networks > Alerts > External Alerts</u> or in <u>MPT1327 > Customise Radio > MPT Alerts > External Alerts</u>. Raised as Focus 22704.

➢ Resolved an issue where ANI Decode labels could not be successfully removed once added. Found in <u>Conventional > Networks > Features</u> once Selcall has been assigned to that network. Raised as Focus 22157.

NOTE: A change implemented in the TM8100 PC App was the inclusion of this pop-up when the Selcall Tone Period was changed.
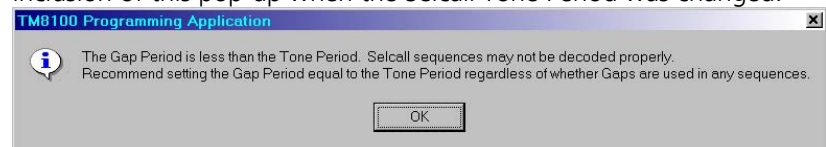
This has **not** been implemented in the TM8200 PC App at this stage but it is still pertinent to detail it here as this helps resolve a prominent Selcall decodability issue. See also TN-1038-SR.

MPT1327 Pages

➢ This release of TM8200 can now support up to four individual MPT1327 Networks.
➢ Up to 250 Trunked Channel Blocks can now be assigned in the TM8200. This is the maximum possible shared across <u>*all*</u> networks.
➢ <u>External Alert is Persistent</u>. See the detailed text above.
➢ <u>Display Last Dialled Call</u> and <u>Display Last Incoming Call</u> define the screen display when calls are complete. If they are both enabled Last Incoming Call has priority.

3.   Cal App Changes

V2.93

The latest release of TM8000 Calibration Application suitable for TM8100 and TM8200 mobile radios is v2.93.
This is available on the Programming CD-ROM or on http://www.taitworld.com/support as TM8x00_Cal_v02_93_00.zip.

Change since v2.91 release:
➢ It is no longer possible to program calibration data for an incorrect band. Raised as TIMS 55862.

4. Enhancements

Auto Power Down Timer

➢ Sets a timer that automatically turns the radio off after a period of inactivity. The purpose of this timer is to prevent the radio drawing current from the vehicle battery if inadvertently left on by the radio user. The timer begins counting down as soon as the radio is turned on (unless the radio is in emergency mode or is on due to ignition sense) and resets each time there is user-intervention such as a PTT or keypress. If the timer expires the radio will give a warning before powering down.

➢ Enter a time between 10 and 4320 minutes (72 hours) in steps of 10. Enter 0 to disable the automatic power down timer (default). Found in Global > Start-up.
NOTE: Received activity and activity on the serial port (such as GPS polls) do not affect the timer.

TM8235

➢ This release of the TM8200 firmware is the first to support use of the 3-digit head full-fleet dialing radio, called the TM8235.
This provides a direct replacement for existing users of the T2035.
The radio will accept the same personality already defined for any TM8200, although it cannot perform some specific functions, and these are detailed in a pop-up box of the PC App when the file is written to the radio.

➢ The display will show only the user ID if the current call countdown time available from the MPT system is greater than 9m:59s. When the remaining time drops below 9m:59s the display reverts to timing countdown.
The T2035 by comparison only showed the last 3 digits even if there were 10 further minutes available. i.e.: 11m:48s would display as 1:48.

TM8260

➢ This release of the TM8200 firmware is the first to support commercial release of the dual-body / single head TM8260 configuration.

➢ The TM8260 can support the following operational uses:
- o Single radio
- o Dual Transmit
- o Dual Receive
- o Cross-Band repeat

➢ Each TM8200 is a full functioning 'TM8250' Conventional radio with 1500 channels, 300 Scan/Vote groups and Selcall abilities.

➢ The radios will accept the same personality already defined for any TM8200.
NOTE: Due to the changes in Bootcode capability there is no 'upgrade' path for existing TM8250's to be a TM8260. The bodies need to be production builds after July 2006.

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Direct Connect GPS MPT1327

➢ Direct connect GPS Automatic Vehicle Location (AVL) was fully supported in Conventional Mode in previous releases and now it is fully supported in MPT1327 mode.
To enable this functionality go to Global > Serial Protocol > GPS and click GPS Serial Port. The following pop-up will advise the CCDI default port will be changed from Aux to Mic, allowing the GPS to be used as Aux.

The port can then be changed from Aux to Internal Options as required.
The Aux port can be used with 13V capable GPS receivers such as the TMAA05-01 Garmin or T2002-A00 Talon.
Internal Options can be used if an interface board is fitted such as the TMAA01-02 RS-232 Board which also provides 5V for some other GPS receivers such as the internal mount only T2003-A00 Evermore.
The Baud rate is defaulted at 4800, which is the NMEA standard.

➢ Click MPT > Radio Unit > Data Parameters > GPS. On this page you can define the Solicited Poll actions, which are those responses the mobile actions from the base AVL request. These can be SDM GPS-Poll (SST via control channel) or TDP GPS-Poll[1] (NPD via traffic channel) or
Status GPS-Poll (Status via control channel) usually Status 30 is used.
The next three fields define the address (in MPT1327 numbering) the mobile user can send Unsolicited GPS polls to, and the mode as SDM or TPD.
This is actioned by the function Key option "Send GPS Position".

➢ The GPS location information from the receiver can also be displayed on the TM8255 screen with the optional GPS Display SFE Key **TMAS015** enabled. "GPS Info" needs to be ticked in MPT > MPT Menu.

Direct Connect GPS Conventional

➢ To enable this functionality go to Global > Serial Protocol > GPS and click GPS Serial Port. The pop-up shown above will advise the CCDI default port will be changed from Aux to Mic, allowing the GPS to be used as Aux.
The Baud rate is defaulted at 4800, which is the NMEA standard.

➢ Go to Conventional > Conv Data Params > SDM and tick SDM Enabled and define the mobiles 8-digit identity. Change the GPS SDM format to CCDI3 + CCDI2 GPS, then go to GPS tab and tick GPS Position Reporting Enabled and define the Base radio's 8-digit identity. The other parameters on this page define the timings that may need adjustment depending on the infrastructures configuration.
NOTE: "Send GPS Position" is not a feature of Conventional operation, however the radio can be configured to send GPS positions on PTT press or release in Conventional > Networks > PTT Signalling if required.

➢ The GPS location information from the receiver can also be displayed on the TM8255 screen with the optional GPS Display SFE Key **TMAS015** enabled. "GPS Info" needs to be ticked in Conventional > Conventional Menu.

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[1] TDP is Tait Data Protocol found on the TDP tab, that defines the Non Prescribed Data Parameters.

Compliance Issues	None.
CSO Instruction	Inform all service staff and dealers of the released information.

5.   Issuing Authority

Name and Position of Issuing Officer	Graham Brenchley Technical Support Engineer
Confidentiality	Confidential – This message or document contains proprietary information intended only for the person(s) or organisation(s) to whom it is addressed. All Recipients are legally obliged to not disclose Tait technological or business information to any persons or organisations without the written permission of Tait.
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